

Merotype 500 Injection

Meropenem (500 mg) Injection: Detailed Information

Generic Name: Meropenem Brand
Names: Meronem, Merrem, and others

Dosage Form: Powder for Injection (500 mg per vial)

Description

Meropenem is a broad-spectrum betalactam antibiotic from the carbapenem class. It is effective against a wide variety of bacterial infections, including Grampositive, Gram-negative, and anaerobic bacteria. It works by inhibiting bacterial cell wall synthesis, leading to bacterial death.

Indications and Uses

Meropenem is indicated for the treatment of severe bacterial infections, including:

1. Intra-abdominal Infections ○ Peritonitis ○ Appendicitis
2. Respiratory Tract Infections ○ Severe pneumonia, including hospital-acquired or ventilator-associated pneumonia.
3. Urinary Tract Infections ○ Complicated UTIs, including pyelonephritis.

4. Skin and Soft Tissue Infections ○ Cellulitis and abscesses.
5. Meningitis ○ Bacterial meningitis caused by susceptible organisms.
6. Septicemia ○ Bloodstream infections.
7. Febrile Neutropenia ○ Empirical treatment in immunocompromised patients.

Dosage and Administration Route of

Administration: Intravenous (IV)

- Adults and Adolescents (≥ 50 kg): ○ Usual dose: 500 mg to 1 g every 8 hours. ○ Severe infections (e.g., meningitis): 2 g every 8 hours.
- Pediatric Patients (≥ 3 months to < 12 years):
 - 10–40 mg/kg every 8 hours (maximum dose: 2 g every 8 hours).
- Neonates (< 3 months):
 - 20–30 mg/kg every 8–12 hours, based on gestational age and infection severity.
- Renal Impairment: ○ Dose adjustment is required based on creatinine clearance (CrCl).

Preparation and Administration 1.

Reconstitution: ○ Reconstitute the powder with sterile water for injection or a

compatible diluent (e.g., normal saline or 5% dextrose).

- **Concentration:** Typically 50 mg/mL.

2. Infusion Duration:

- **Administer over 15–30 minutes for IV infusion.** ◦ **Alternatively, administer as an IV bolus over 3–5 minutes.**

- **Allergic reactions (e.g., anaphylaxis, angioedema)**
- **Seizures (more likely in patients with CNS disorders or renal impairment)**
- ***Clostridioides difficile*-associated diarrhea**
- **Elevated liver enzymes**

Mechanism of Action

Meropenem inhibits bacterial cell wall synthesis by binding to penicillin-binding proteins (PBPs). This prevents peptidoglycan cross-linking, leading to bacterial lysis and cell death.

Contraindications

Meropenem is contraindicated in patients with:

- 1. Known hypersensitivity to meropenem, other carbapenems, or beta-lactam antibiotics.**
- 2. Severe allergic reactions to penicillin or cephalosporins (cross-reactivity risk).**

Spectrum of Activity

- **Gram-positive bacteria:** ◦ *Streptococcus pneumoniae* ◦ *Streptococcus pyogenes* ◦ *Enterococcus faecalis* (some strains)
- **Gram-negative bacteria:** ◦ *Escherichia coli* ◦ *Klebsiella pneumoniae* ◦ *Pseudomonas aeruginosa* ◦ *Acinetobacter spp.*
- **Anaerobic bacteria:** ◦ *Bacteroides fragilis*

Precautions

- 1. Renal Impairment:** Monitor renal function and adjust dosage as needed.
- 2. Neurological Conditions:** Use cautiously in patients with a history of seizures or other CNS disorders.
- 3. Superinfection Risk:** Prolonged use may result in fungal or bacterial superinfections.
- 4. Pregnancy and Lactation:** ◦ **Pregnancy:** Category B (use only if clearly needed). ◦ **Lactation:** Excreted in breast milk; use with caution.

Side Effects

Common side effects:

- **Nausea**
- **Diarrhea**
- **Headache**
- **Rash**

Serious side effects:

Drug Interactions

- **Valproic Acid:** Meropenem may reduce valproic acid levels,

potentially leading to loss of seizure control.

- **Probenecid: Increases meropenem plasma concentrations by inhibiting renal excretion.**

Storage Instructions

- **Store unopened vials at room temperature (20–25°C or 68–77°F).**
- **After reconstitution, use immediately or store in a refrigerator (2–8°C) and use within 24 hours.**

Special Notes

- **Meropenem is a prescription-only medication and should be administered under the supervision of a healthcare professional.**
- **Perform culture and sensitivity tests to determine the susceptibility of the causative organism before initiating treatment.**
- **Avoid unnecessary use to reduce the risk of antibiotic resistance.**

Manufactured in India for:



Cafoli Lifecare Pvt. Ltd.

(An ISO 9001: 2015 Certified Co.)

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